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(54) Title: NON COVALENT BIOCONJUGATES USEFUL FOR DIAGNOSIS AND THERAPY

(57) Abstract: A composition comprising non-covalent carrier-hapten bioconjugates having the formula HM----CM wherein HM is a hapten molecule whose molecular weight is generally, but not always, less than 1000 Daltons and is capable of performing specific functions, CM is a carrier molecule, whose molecular weight is generally, but not always, more than 1000 Daltons and is capable of transporting the hapten to a specific site; and the dashed line is a non-covalent bond between the carrier molecule and the hapten molecule. Preferably, the bioconjugates are formed from fluorescent dye haptens such as cyanine, indocyanine, squaraine, porphyrins, Rose Bengal, and methylene blue dye and carrier molecules such as methylated serum albumin, polyarginine, polyaspartic acid, polyglutamic acid, cyclodextrin, and inulin. The bioconjugates are useful in diagnostic and therapeutic medical procedures because they are stable *in vitro* before being used and stable *in vivo* during and after use.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US99/07061

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : Please See Extra Sheet

US CL : 530/391.3, 403, 807; 424/1.57, 9.34; 436/501, 543, 546

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 530/391.3, 403, 807; 424/1.57, 9.34; 436/501, 543, 546

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Please See Extra Sheet.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X -- Y	US 4,806,488 A (BERGER, JR. et al) 21 February 1989, Abstract.	1 -- 1-30
X -- Y	BERGER et al. Immunochemistry of the Subunits of Transcarboxylase. J Biol Chem. Vol. 251, No. 22, pages 7021-7034, especially Materials and Methods.	1 -- 1-30
Y	LEE, S.H. Cytochemical Study of Estrogen Receptor in Human Mammary Cancer. Am J Clin Pathol. August 1978, Vol. 70, No. 2, pages 197-203, especially Materials and Methods.	1-30

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
A document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*A* document member of the same patent family
O document referring to an oral disclosure, use, exhibition or other means	
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Date of the actual completion of the international search

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search terms: carrier, hapten, bioconjugate, noncovalent, conjugate, indocyanine, squaraine, inulin, fluorescent, bovine, albumin, dye